

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-23. Canceled

24. (New) Device to detect breathing activity of a person comprising:

a flow sensor to supply a first signal indicative of breathing gas flow; and

at least one signal processor to process said first signal;

said signal processor being arranged so as to generate:

a reference-relation on the basis of said first signal detected over a first time period, wherein a duration of said first time period is set so as to cover at least two breathing cycles; and

a correlation-relation between said reference-relation and said first signal;

said signal processor being further arranged so as to:

generate on the basis of an observation of said correlation-relation an output signal which is indicative with respect to the breathing activity and/or the physiological condition of the breathing person; and

adjust the breathing gas pressure control in accordance with said output signal.

25. (New) Device according to claim 24, further comprising a pressure sensor to supply a second signal indicative with respect to the dynamic and/or static breathing gas pressure.

26. (New) Device according to claim 25, further comprising a filter to filter and/or dampen at least one of said first signal and said second signal.

27. (New) Device according to claim 26, wherein said filter includes parameters that are adaptively changed.

28. (New) Device according to claim 24, wherein said signal processor comprises smoothing means for smoothing said reference-relation on the basis of selected smoothening criteria.

29. (New) Device according to claim 28, wherein said smoothening criteria are adaptively changed.

30. (New) Device according to claim 24, wherein said signal processor comprises smoothing means for smoothening said reference-relation.

31. (New) Device according to claim 30, wherein said smoothing means is arranged so as to operate on the basis of statistic concepts.

32. (New) Device according to claim 24, wherein said signal processor comprises threshold-observation-means for analyzing said correlation-relation with respect to threshold-criteria which may include zero-crossings.

33. (New) Device according to claim 24, wherein said signal processor comprises counting-means for counting occurrence of predetermined criteria within a predetermined time period.

34. (New) Device to deliver a breathable gas towards a patient, said device including:  
a pressure controller to control the pressure of said breathable gas delivery to the patient;  
and

a detector to detect the breathing activity of said person, said detector including:

a flow sensor to supply a first signal indicative with respect to breathing gas flow;

and

at least one signal processor to process said first signal;

said signal processor being configured so as to generate:

a reference-relation on the basis of said first signal detected over a first time period, said first time period being set so as to cover at least two breathing cycles; and

a correlation-relation between said reference-relation and said first signal;

said signal processor being further configured so as to generate on the basis of an observation of said correlation-relation an output signal which is indicative with respect to the breathing activity and/or the physiological condition of the breathing person;

wherein the pressure of said breathable gas as controlled by said pressure controller is adjustable in accordance with said output signal.

35. (New) Device for supplying breathing gas to a patient above ambient pressure, comprising feeding means for feeding said breathing gas; at least one detector to detect breathing

gas pressure and/or breathing gas flow; and a signal processor adapted to generate a reference-relation on the basis of each said detected signal and to adjust the breathing gas pressure on the basis of a correlation-relation between said reference-relation and a prevailing breathing pattern.